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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/617,556	07/17/2000	Douglas P. Hart	MIT-04488	8301

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EXAMINER

BINDA, GREGORY JOHN

ART UNIT PAPER NUMBER

3679

DATE MAILED: 05/15/2003

21

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/617,556

Applicant(s)

Hart et al

Examiner

Greg Binda

Art Unit

3679



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Apr 14, 2003
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-40 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Jul 17, 2000 is/are a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on Apr 14, 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 16 6) ☐ Other: _____

Art Unit: 3679

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 24-39 have been renumbered 25-40.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on Apr 14, 2003 has been entered.

Drawings

4. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on Apr 14, 2003 have been approved. A proper drawing correction or corrected drawings are

Art Unit: 3679

required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

5. The drawings are objected to as failing to comply with 37 CFR 1.83(a) because the drawings fail to show the invention recited in either claim 25 or claim 33. The drawings must show every feature of the invention specified in the claims. No new matter should be entered. Various figures show some of the limitations of claim 25 and claim 33, but no figure shows a seal assembly comprising all of the limitations of either claim. There is just one figure, Fig. 7 which shows a seal assembly comprising a mounting ring, but that figure does not show textured features, relative motion (which would normally be indicated by an arrow (see for example Fig. 2 of US 1,876,520)) or a flat surface contacted by a seal ring surface (Fig. 7 only shows a bushing (i.e cylindrical) surface contacted by a seal ring surface).

Specification

6. The disclosure is objected to because the paragraph at the top of page 10 must be amended to include the reference numeral changes in Figs. 2a-2h.

Claim Rejections - 35 U.S.C. § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

Art Unit: 3679

pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 25-40 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

a. Claim 25, subparagraphs a & b recite limitations that are not described in the application as originally filed. This is so because the original disclosure includes no description of a flat surface in motion relative to a seal ring that is bonded to a mounting ring, such that the seal ring surface has textured features. On page 13 a bushing 50 is described as being in motion relative to a seal ring surface having textured features, but a bushing has a cylindrical surface, not a flat surface. A flat surface is mentioned in "Example B" on page 14, line 12, but there does appear to be any mention of motion or a mounting ring in that example.

b. Claim 33, subparagraph b recites limitations that are not described in the application as originally filed. This is so because the original disclosure includes no description of a seal assembly comprising seal ring bonded to a mounting ring such that the seal ring has a surface having textured features and is in motion relative to a flat surface.

Art Unit: 3679

9. Claims 25, 28-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Newkirk et al, US 1,876,520. Fig. 1 shows a seal assembly comprising: a first surface (see also “sealing surface” on page 2, lines 28 & 29), the first surface comprising a seal ring 25 bonded to a mounting ring 26, the seal ring comprising an outer peripheral edge and textured features interior to the outer peripheral edge; and a substantially flat second surface (of runner 22) in rotational motion (see page 2, lines 39 & 40) relative to the first surface; and the first and second surfaces contacted under conditions such that a seal is produced (see also page 2, lines 38-44). Fig. 2 shows that the textured features comprise equidistant protrusions 54 and that the outer peripheral edge is curved. Fig. 1 shows that the outer peripheral edge of the first surface is raised above shaft 3.

10. Claims 25, 28-33 & 36-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Otto et al, US 3,572,730 (Otto). Figs. 9 & 10 shows a seal assembly comprising: a textured surface 52, the textured surface comprising a seal ring bonded (see col. 2, line 49) to a mounting ring 12 (see Fig. 1 and col. 6, lines 63-66), the textured surface 52 comprising a curved outer peripheral edge and protrusions 54 interior to the outer peripheral edge; and a substantially flat surface 70 contacting the textured surface under conditions such that a seal is produced. In col. 2, lines 42-47 and col. 7, lines 59 & 60, Otto discloses that either the textured surface or the flat surface can rotate relative to the other surface. Figs. 9 & 10 show that the protrusions 54 are equidistant. Fig. 9 shows that the outer peripheral edge of the textured surface 52 is raised above

Art Unit: 3679

the area marked "OIL". Fig. 1 shows that the outer peripheral edge of the first surface is raised above shaft 3.

Claim Rejections - 35 U.S.C. § 103

11. Claims 27 & 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otto in view of Blackman et al, US 5,452,771 (Blackman). Fig. 10 shows textured surface 52 with protrusions 54 that have triangular shape, but does not show the protrusions with a cylindrical shape. In Figs. 4B & 4C, Blackman shows that a textured surface having triangular protrusions and a textured surface having cylindrical protrusions are art recognized equivalents. It would have been obvious to one of ordinary skill in the art to modify the seal assembly of Otto by making the textured surface with cylindrical protrusions instead of triangular protrusions since textured surfaces with cylindrical protrusions and triangular protrusions are art recognized equivalents as shown in Blackman.


Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Binda whose telephone number is (703) 305-2869. The examiner can normally be reached Monday through Thursday from 9:30 am to 7:00 pm. The examiner can also be reached on alternate Fridays.

Art Unit: 3679

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne, can be reached on (703) 308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9326 (before final), (703) 872-9327 (after final) and (703) 872-9325 (customer service).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2168.


GREGORY J. BINDA
PRIMARY EXAMINER